PATENT Docket: CU-4204

Amendments to the Specification

Please <u>replace</u> the 3rd paragraph on page 2 with the following amended paragraph:

The <u>or each</u> <u>at least one</u> electrically powered light emitting device may be arranged to supplement the emitted fluorescence radiation by providing light of at least one particular colour such that the addition of the light from the <u>or each</u> <u>at least one</u> electrically powered light emitting device to the emitted fluorescent light results in light having a predetermined colour. The predetermined colour typically is white.

Please <u>replace</u> the 3rd paragraph on page 4 with the following amended paragraph:

In a specific embodiment the hybrid lighting system comprises an optical cable that is arranged to guide light from the er-each at least one light collector and the er-each at least one electrically powered light emitting device. In this embodiment one of three colours required for the generation of white light is generated by the electrically powered light source. In this case the optical cable can have a cross-sectional area through which, in use, light is guided that is reduced by approximately 1/3 compared to a lighting system in which all colours for the generation of the white light are generated by light collector sheets.

Please replace the 1st paragraph on page 5 with the following amended paragraph:

The er each at least one electrically powered light emitting device may also be arranged to supplement for an intensity deficiency of the output. In addition to supplementing a spectral characteristic, the electrically powered light emitting device may also be arranged to provide light within the same colour range as that of the emitted fluorescence radiation. In this case, the hybrid lighting system may comprise electrically powered light emitting devices that are arranged for the emission of red, green and blue light and the hybrid lighting system may include light collectors arranged for the emission of light of some these colours. In this case the light collectors may be used to provide illumination at daytime, supplemented by at least one of the light emitting devices, while at night time the electrically powered light emitting devices are used to provide illumination. For example, at daytime green

Docket: CU-4204

fluorescence light may be provided by the light collector supplemented by light emitted from the red and blue electrically powered light emitting devices while at night time light is provided from the electrically powered light emitting devices only.

Please <u>replace</u> the paragraph bridging on page 5 and page 6 with the following amended paragraph:

The hybrid lighting system may comprise at least one light guide and the or each electrically powered light emitting device may be coupled to the or each at least one light guide by means of a prism, an optical fibre or a lens. The or each at least one electrically powered light emitting device may also be implanted into the or respective ones of the light guides. Optionally, the or each at least one electrically powered light emitting device is coupled to a respective light transmissive sheet that is in coupled to the or each at least one respective light guide.

Please <u>replace</u> the 1st paragraph on page 6 with the following amended paragraph:

The hybrid lighting system may also comprise a luminaire arranged to emit light and wherein the light from the er each at least one electrically powered light emitting device may be mixed within the luminaire with light from the er each at least one light collector sheet. The er each at least one light collector sheet may be coupled to the luminaire without an intervening separate light guide.

Please <u>replace</u> the 2nd paragraph on page 6 with the following amended paragraph:

For example, the or-each at least one electrically powered light emitting device may be mounted in, or adjacent to, the luminaire which is used to emit light and to which the or-each at least one light guide may be coupled. In any case coupling may be effected such that light from the electrically powered light emitting device and fluorescent light are added to each other.

Docket: CU-4204

Please <u>replace</u> the 3rd paragraph on page 6 with the following amended paragraph:

The er each at least one electrically powered light emitting device may be powered by a battery or another energy storage device. The er each at least one electrically powered light emitting device may also be powered by a solar cell. Alternatively, the battery or the other storage device may be charged by the solar cell and the hybrid lighting system may be arranged to provide stand-alone 24 hour lighting or lighting-on-demand.

Please <u>replace</u> the 4th paragraph on page 6 with the following amended paragraph:

The output of the er each at least one electrically powered light emitting device in combination with the output from the er each at least one light collector may be controllable to generate light of controlled colour shades.

Please <u>replace</u> the paragraph bridging on page 6 and page 7 with the following amended paragraph:

The light output from the er each at least one electrically powered light emitting device and the output from the er each at least one light collector sheet may also be controllable to generate a substantially constant illumination during clear day conditions, cloudy or night time conditions.

Please <u>replace</u> the 2nd paragraph on page 7 with the following amended paragraph:

In one specific embodiment, the device comprises more than one light emitting devices of the or each at least one colour that is in use supplemented.

Please <u>replace</u> the paragraph bridging on page 10 and page 11 with the following amended paragraph:

In a specific variation of the previous embodiments, the LEDs are placed alongside (or within) a luminare that is attached to an end of the or each at least one

50 microns.

light guide and through which light is emitted for illumination purposes. A part of such a system is shown in Figure 6 (a). In this embodiment, the hybrid lighting system 63 comprises light guides 64 which are connected to respective light collector sheets (not shown) that are arranged for the emission of red and green fluorescent light. The light guides 64 are connected by optical joint 65 to the luminaire 66. Typically the shape of the luminaire 66 is chosen so that the cross sectional area of the er each at least one exit surface exceeds the cross sectional area of the entry surface. U.S. Pat. No. 6,272,265 teaches that this can enhance the release of otherwise trapped fluorescent radiation from the optical system. The LEDs 67 are positioned such that fluorescent light and LED light mixes. Typically the fluorescent light and LED light mixes within the luminaire. In a specific variation of this embodiment the LEDs may be placed within the luminare. In a typical embodiment the LEDs 67 emit blue light of an intensity and spectral distribution that combines with the red and green fluorescent light from light guides 64 to make white light. Optionally the luminaire 66 may be fabricated from a diffusing material. A suitable material is PMMA doped with particles of cross-linked. PMMA in the size range of 5 microns to

Docket: CU-4204

Please <u>replace</u> the paragraph bridging on page 13 and page 14 with the following amended paragraph:

Although the invention has been described with reference to particular examples, it will be appreciated by those skilled in the art that the invention may be embodied in many other forms. For example, each light collector sheet 12, 23, 25, 33, 43, 52, 54 and 56 may be one of a stack of light collector sheets that may be doped with the same type or with different types of light emitting dye molecules. Similarly, the stack of light guides 64 may be a single light guide. Further, the system may comprise electrically powered light emitting devices other than LEDs. In addition, each light emitting diode 14, 16, 24, 34, 44, 58, 60, 62, 67, 72 and 84 may be one of a plurality of light emitting diodes. In the shown examples, each LED is provided in form of a package that comprises a lens. It will be appreciated that alternatively the LEDs may not comprise lenses. The LED light may for example be coupled into a light guide using an auxiliary lens 15 positioned between the LED and

Application Serial No. 10/534,668 Reply to Office Action of February 9, 2007

the light guide <u>and shown in Figure 1b</u>. It will also be appreciated that the light guides may not be provided in form of a flat sheets. Further, it will be appreciated that the light cables may not have round cross-sectional shapes but may alternatively have any other suitable cross-sectional shape such as rectangular shapes. For example, the light cables 71 and 81may be in the form of flat sheets.

Docket: CU-4204